A Multimodal Exploration of Non-Fiction Read-Aloud Performances in English as an Additional Language

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By

Elisa Bertoldi

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In loving memory of my grandmother
Nives Carlino
(1930-2021)

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INTRODUCTION

In the last decade, there has been significant growth in the publication of non-fiction picturebooks (Sanders, 2018; Grilli, 2020a), driven by an educational and cultural turn toward inquiry-based learning and critical engagement with real-world topics (Goga, 2021). These books do more than convey facts: they foster curiosity, ignite wonder, and invite young readers to ask questions about the world they inhabit. Rich in multimodal features, these picturebooks weave together written text, illustrations and peritextual elements to convey information in engaging and effective ways.

Various studies address the implications of using non-fiction picturebooks in L1 contexts, within specific content areas and for specific purposes (see, among others, Dreher, 1998; Sanders, 2018; Muthukrishnan, 2019; Bruno, 2020; Todaro and Mascia, 2022). Research confirms that they can be used to enhance vocabulary acquisition and foster early literacy skills (Caswell and Duke, 1998; Barnes et al., 2015), particularly when presented in dialogic and multimodal ways. However, little research has been conducted on the implications of using non-fiction picturebooks and their mediation in the field of additional language education.

This volume focuses on non-fiction picturebook read-aloud performances in English as an Additional Language. In line with the recent developments in research studies in language learning and use (among others, Anderson, 2022; Diamantopoulou and Ørevik, 2021; Fleta, 2022), the term 'additional language' is used to identify English as non-native language for the participants involved in the study and to acknowledge the plural identity of English in their linguistic repertoires.

The volume fosters reflection on how non-fiction picturebooks can serve as catalysts for meaningful interactions during read-aloud performances where adult mediators and children explore facts and events, negotiate information and co-construct knowledge and meaning about the world in English as an Additional Language.

The data supporting the discussion on multimodal interactions between storytellers and children during picturebook mediation were gathered from four case studies conducted during the *Telling and Listening to Eco-sustainable Stories* – TALES (YELL University of Udine, 2025) initiative, a series of read-aloud sessions about nature and the environment in

English as an Additional Language for children aged 6 to 9 years (see Chapter 3). The series took place in July 2021 in the out-of-school context of the Natural History Museum of Friuli in Udine (Italy): four student teachers of the Primary Education Course of the University of Udine (Italy) participated in the initiative as volunteer storytellers and picturebook mediators: they selected four non-fiction picturebooks and gave read-alouds in English for children at the museum.

In this book, the term *storyteller* is sometimes used interchangeably with *adult* and *picturebook mediator*. These broad categories include educators, teachers, parents, librarians, and others who share picturebooks with children with the aim of familiarising them with English as an Additional Language.

In this volume, Multimodal (Inter)action Analysis (Norris, 2004) is applied for the fine-grained analysis of video recordings of the TALES read-aloud performances; it is also innovated and expanded by bringing together various methodological approaches, including the use of computational tools for the analysis of multimodal data and the use of ethnographic tools as an additional data source and as a lens to guide the data discussion. The Tool for Multimodal Analysis – TMA (2022) presented in the volume and used in the study, is a newly developed web application that elaborates annotation files generated though ELAN (2021) software. TMA offers researchers functionalities that can contribute to identifying co-occurrences and recurrent patterns of annotations within specific time spans.

Through the empirical analysis of the TALES read-aloud performances, this volume explores the multimodal nature of non-fiction picturebook mediation focusing on the role of embodied communication in interactions between storytellers and children, moving away from the overwhelming relevance given to verbal language in educational contexts. The volume presents and discusses the multimodal ensembles of resources through which communicative interaction is established and through which picturebook mediation is instantiated in the specific context of this research.

The main purpose of this volume is contributing to the field of multimodal communication and pedagogies for teaching and learning English as an Additional Language. Specifically, it addresses the fields of children's communicative development, non-fiction picturebook read-aloud performances and multimodality.

The purpose of this volume is also to offer researchers new tools to structure, analyse and visualise, multimodal data (Flewitt et al., 2017) collected through video annotation. Among them, an annotation scheme

was developed for the multimodal annotation of video recordings of read-aloud performances. The scheme (Appendix B) is an innovative tool that can be adapted for other purposes and other studies.

The volume develops in 6 chapters. Chapter 1 lays the theoretical groundwork for the volume. It offers a contextualised definition of the term 'English as an Additional Language', situating it in the out-of-school and plurilingual context of the research study. The chapter discusses how children develop communicative competences through interaction emphasising their use of both verbal and non-verbal resources in meaning-making. Finally, the chapter introduces the multimodal perspective on communication and presents its theoretical principles underpinning the approach to the study on read-aloud mediation.

Chapter 2 explores the use of picturebooks and their mediation in English as an Additional Language read-aloud sessions, beginning with a broad definition and overview of picturebooks before narrowing the focus to non-fiction. It examines children's responses to read-alouds, referencing established response categories, and introduces the two phases of picturebook mediation addressed in the volume: selection and performance. Through theoretical insights, the chapter emphasises the adult mediator's role in fostering children's comprehension and engagement.

Chapter 3 presents the research context and methodology underpinning the study of multimodal interactions during non-fiction picturebook read-alouds. It details the study design, which combines ethnographic tools with an innovative approach to multimodal interaction analysis based on Norris' Multimodal (Inter)action Analysis framework. The chapter explains the data collection and annotation processes, including the use of ELAN software and of the web application Tool for Multimodal Analysis.

Chapter 4 examines the process of non-fiction picturebook selection for read-aloud performances within the TALES initiative, focusing on four titles: *The Beeman* (Krebs and Cis 2008), *A Forest* (Martin, 2012), *We Love Dinosaurs* (Volpin, 2016), and *A Stone Sat Still* (Wenzel, 2019). Each book is analysed as a multimodal literary object, considering its text, illustrations, word-image interplay, typography, and peritextual elements. The chapter explores how these features contribute to the design of the read-aloud performance. It also discusses the criteria used by storytellers for picturebook selection, highlighting the role of this phase in the picturebook mediation process.

Chapter 5 presents the communicative modes through which storytellers embodied communication during the TALES read-aloud performances. Grounded in the Multimodal (Inter)action Analysis framework, the chapter

highlights how a set of modes contributed to the negotiation and co-construction of meaning in additional language education contexts.

Chapter 6 discusses the orchestration of ensembles of modes for non-fiction picturebook mediation. It describes configurations and patterns of modes that shaped communicative interactions during the TALES performances. The chapter concludes by presenting evidence-based guidelines for pre-service and in-service teacher education, offering practical insights into effective strategies for picturebook mediation.

This volume addresses a central question that emerges from the intersection of multimodal interaction analysis and additional language education: *How is non-fiction picturebook mediation instantiated through multimodal interaction for additional language education with children in specific contexts?* Rather than assuming mediation as a predetermined pedagogical strategy, this volume discusses how it emerges as a multimodal practice through the orchestration of ensembles and patterns of semiotic resources during read-aloud performances.

CHAPTER ONE

CHILDREN'S LINGUISTIC REPERTOIRES, SOCIAL INTERACTION, AND MEANING-MAKING IN DEVELOPMENT

This chapter provides the theoretical foundation and key principles underpinning children's communicative and interactive development in learning an additional language through non-fiction picturebook read-alouds. The chapter begins by introducing the term 'English as an Additional Language' and situating it within the out-of-school contexts and a plurilingual framework for understanding children's language development. It examines children's communicative development, emphasising the role of both verbal and non-verbal resources in meaning-making processes through social interaction. The chapter foregrounds children's capacity to act, interact, and construct meaning through the orchestration of multiple semiotic resources, thereby underscoring the relevance of the multimodal approach adopted in the study at the core of this volume. The final sections provide an account of the theoretical foundations that inform the multimodal approach to communication and interaction adopted in this study.

Defining English as an Additional Language in the Context of the Study

The present research study involved Italian student teachers who conducted picturebook read-aloud sessions in English with Italian children during the TALES initiative (Telling And Listening to Eco-sustainable Stories, see Chapter 3). English is not the language used by participants in the social environment, but it is the language children usually encounter in primary school as the obligatory foreign language; before that, some children will have experienced it in nursery school. The student teachers of TALES have encountered English in the formal learning contexts of school and university. This implies that English is considered a 'foreign language' for all participants. Foreign language learning is described by

Murphy (2014: 131) as an "increasingly prevalent way for children [to] become multilingual". In the field of language education, the terms 'second language' (or 'L2') generally refers to a language used in some institutions or contexts of a country where the dominant L1 is different. However, the boundaries between English as a foreign language and English as a second language or L2 are rather fuzzy and in continuous development especially in informal contexts of exposure. The label L1 is conventionally used to refer to the language(s) a person is exposed to before the age of 3 (Dewaele, 2010: 4). Consequently, the label L2 is refers to any language acquired after that. Mitchell and Myles use the word 'second' as an umbrella term for all foreign/second languages "because [...] the underlying learning processes are essentially the same for more local and for more remote target languages, despite differing learning purposes and circumstances" (1998: 2). More recently, Anderson (2022) has proposed the use of the term 'additional language' rather than 'second language' arguing that the term 'second' could be reductive and might not capture the experiences of multilinguals in various language learning contexts. According to Anderson the term 'additional' is cumulative and "can incorporate a third, fourth or fifth language and any combination of these" (2022: 4). Anderson also states that 'additional language' is an inclusive term that avoids seeing learners as outsider non-native speakers.

In the field of English language education, the label 'English as an Additional Language' is generally used in countries where English is the official language of education to refer to children who are exposed to different languages at home and are learning English at school (Chalmers, 2022: 13). Potentially, all children in Italy are exposed to different languages at home and English is generally the official foreign language they learn at school. The label 'English as an Additional Language' (from now on EAL) will be used in this volume because it broadens the view on the processes and practices related to English language education, it recognises the complexity, multimodality and multilingualism involved in language learning both in formal and informal contexts of exposure. Moreover, the use of the term 'additional language' acknowledges the recent changes in our understandings of language learning and use, and the more diverse community of multilingual, multimodal professionals investigating language in all its manifestations, developments and uses (Diamantopoulou and Ørevik, 2021; Anderson, 2022; Fleta, 2022).

In the present research study, EAL refers to the English language used by storytellers and children during read-aloud sessions in out-of-school contexts. The target language used by participants in the context of the

present study is different from the children's and storytellers' home or community languages. The term EAL is used to underline the fact that children (especially young children) have that unique potential for learning/acquiring any language as naturally as possible experiencing sequences of development similar to those of L1 language learning (Fabbro and Cargnelutti 2018; Marini, 2019; Garraffa et al., 2020). Using a common, yet beautiful metaphor, children have the 'window of language' still open in their brains (Cummins, 1979). Exposed to any language in a communicative and interactive context for long enough, children will absorb and automatise it naturally through creative and individual processes.

In addition, the label EAL is used to acknowledge the plural identity of English in the children's and the storytellers' linguistic repertoires and to account for the very different levels of participants' personal commitment to and experiences with English in their lives (Jensen, 2019; Anderson, 2022). These experiences include informal encounters with English, beyond the classroom, such as the read-aloud sessions observed in this study, which were organised in an out-of-school context.

Out-Of-School Opportunities for Children's Additional Language Development

Drawing from second/foreign language acquisition research (see, among others, Kramsch, 2000; Gass and Selinker, 2008; Lightbown and Spada, 2013; Nava and Pedrazzini, 2018), the present volume explores actions, practices and resources that allow children to familiarise themselves with English in an out-of-school context of exposure. The Council of Europe[1] defines formal learning as a structured process provided by an institution and which often leads to assessment. On the other hand, non-formal and informal learning opportunities do not lead to assessment or to other formal ways of checking competences. Out-of-school learning opportunities for children include events and initiatives that are accessible after school hours (or during school hours but as an alternative way of learning) and offer flexible and inclusive activities addressed to mixed-age and mixed-ability groups. The location and setting include libraries, museums, playgrounds, cultural centres, theatres, book shops.

[1] https://www.coe.int/en/web/lang-migrants/formal-non-formal-and-informal-learning

Research has shown that out-of-school learning opportunities play a significant role in language development increasing the exposure to the new language (see, among others, Kuppens, 2010; Benson, 2011; Sylvén and Sundqvist, 2012; Lindgren and Muñoz, 2013; Sockett, 2014; Sundqvist and Sylvén, 2016). Out-of-school contexts of exposure to a new language for children are generally familiar, welcoming, inclusive and non-judgmental and offer the opportunity to encounter the language in motivating and low-stress-level environments promoting a positive attitude towards the target language. The content and ways of approaching the language vary, competence is not assessed, and language learning is an unintended outcome. In such contexts, children are simply exposed to the language through activities where acquisition is not the primary purpose (De Wilde et al., 2020). In informal contexts of exposure, children 'pick up' "words and structures simply by engaging in a variety of communicative activities during which the […] attention is focused on the meaning rather than on the form of the language" (Hulstijn, 2003: 349). Informal language learning opportunities contribute to the profound subconscious cognitive development through the exposure to the target language in communicative interaction.

What a child learns through formal education might be supported and enhanced through its use in out-of-school contexts (Jensen, 2019). In formal contexts, the amount of time devoted to language use is limited. For instance, in Italian schools English is used only in English lessons, from one to three hours per week in primary schools. More opportunities to encounter the English language are offered in school programmes following a content and language integrated learning approach (Coonan and Ricci-Garotti, 2019) or bilingual projects which significantly increase the level of exposure to the target language. In addition, some children attend English courses during after-school hours.

In Italy, English is used in many contexts and integrated into children's daily activities, such as when listening to music, watching television programs, using the internet or social media, or gaming offering them the opportunity to pick up the language without any form of explicit teaching. In addition, immersive experiences with English offered in out-of-school contexts such as libraries, increase the exposure to the language helping children familiarise with it and show them that it can play a fundamental role in human exchanges: a new language enhances the opportunities to communicate, creates connections with other people and provides new experiences (Bekerman et al., 2006). In out-of-school contexts, children can establish communicative links through their innate capacity for plurilingual acquisition (Garcia, 2009).

Children's Linguistic Repertoires and Plurilingual Competence

Linguistic repertoires and experiences with various languages are diverse: both formal and informal contexts of exposure contribute to creating plurilingual competence defined as the set of implicit and explicit knowledge that allows people to use two or more languages (Marini et al., 2012).

In out-of-school contexts, children can establish communicative links through their innate capacity for plurilingual acquisition (Garcia, 2009).

Most of the children involved in the research study at the core of this volume would consider Italian as their first language, however, their linguistic repertoire is in fact more complex than this. Some have two or more home languages, due to their family background or because they live in multilingual or in bilingual areas of the Friuli-Venezia Giulia region where Friulian, Slovene, German and other languages are spoken alongside Italian. Then, for some children, Italian is a second language because they have recently arrived from other countries, and/or their families speak languages other than Italian. If the linguistic repertoire of children involved in this study is taken into consideration, they can be considered as emergent multilinguals (Garcia, 2009; Alstad and Mourão, 2021) as they have the opportunity to experience languages through different modalities and in various contexts of exposure. The term 'emergent multilinguals' refers to the children's potential in developing their multilingualism. Beacco and Byram have proposed that the term "multilingualism" be used in relationship to the many languages of societal groups whilst the term "plurilingualism" is reserved for the individual's "ability to use several languages to varying degrees and for distinct purposes" (2007: 168). In multilingual contexts children develop communicative skills in two or more languages, they can use different languages in different contexts (Garcia and Wei, 2014: 11; Cenoz and Gorter, 2015: 3) and they can switch from one linguistic code to another naturally and easily. Exposed to new languages, children (especially very young children) grow and linguistically develop while 'languaging' to explore the world. Many sociolinguists have adopted the term 'languaging' (Shohamy, 2006; Canagarajah, 2007; Makoni and Pennycook, 2007) to emphasise the agency of speakers in an ongoing process of interactive meaning-making. Garcia and Wei (2014: 8) define "languaging" as an ongoing process that is always being created as we interact with the world linguistically. According to Swain (2006: 96), "languaging" is "a dynamic, never-ending process of using language to make meaning". Extending and

paraphrasing Swain's definition, Piccardo defines "plurilanguaging" as a "a dynamic, never-ending process to make meaning using different linguistic and semiotic resources" (2017a: 9).

Through their capacity for plurilingual acquisition children build up "a communicative competence to which all knowledge and experience of language contributes and in which languages interrelate and interact" (Beacco and Byram, 2007: 4). Children's capacity for plurilingual acquisition includes flexible and hybrid uses of languages: they can use more than one language or dialect in interacting with parents, caregivers and peers through forms of code switching, code-mixing and translanguaging (Piccardo and North, 2020). Various forms of code switching are used by children, especially in informal language learning opportunities. As Beacco et al. state "The plurilingual perspective centers on learners and the development of their individual plurilingual repertoire, and not each specific language to be learnt" (Beacco et al., 2015: 23). Children's capacity for plurilingual acquisition includes also the use and understanding of paralinguistic features such as body language, gestures, facial expressions, tone and pitch of voice in order to decode spoken or written texts (Pennycook, 1985: 259; Piccardo, 2017b).

In this volume, children are considered as socially acting, plurilingual users, whose plurilingual competence develops through their use of the entire set of linguistic and paralinguistic resources in complex interaction. Viewing EAL education contexts through the lens of plurilingual users, suggests a certain complexity, with elements of a different nature inter-relating and influencing each other: during events in EAL, participants (children and adults) use the target language but they can draw from their whole different linguistic repertoires as well. In addition to the verbal language, all participants use paralinguistic features and contextual clues to communicate and interact creating immersive plurilingual experiences.

The Role of Interaction and Multimodal Communication in Children's Language Development

According to Halliday (1975), social interaction is a necessary condition for communicative development to occur: by interacting with parents, caregivers and peers the child acquires both the language and the paralinguistic repertoires that contribute to communicative skills.

Research in neurolinguistics (Tomasello, 2000; Meltzoff et al. 2009; Massaro, 2017; Weisleder et al., 2018) and second language acquisition (Cameron, 2001; Taeschner, 2005; Verga and Kotz, 2013) suggests that languages are easily acquired when they are used for communication in

contexts of interaction which are relevant and suitable for children. If a second language is used in communicative interaction, it will be memorised in the systems of implicit memory, as happens for the native language, and this will make the acquisition process more effective (Philip and Jessner, 2002; Nava and Pedrazzini, 2018; Fabbro and Cargnelutti, 2018).

Social interactionists see language as a cultural activity learned in interaction with others and they recognise the impact of environmental factors on language acquisition. Vygotsky laid the foundation for the interactionists' view of language acquisition; he believed that the construction of knowledge is always socially mediated and therefore the social context plays a fundamental role in cognitive development. For children it is necessary to be engaged in social interactions for cognitive development to occur (Vygotsky, 1986; Mercer and Howe, 2012). According to Vygotsky and other sociocultural theorists (e.g., Newman et al., 1989; Wertsch, 1991; Lantolf and Appel, 1994) cognitive processes arise from the interaction that occurs between individuals: higher order cognitive functions such as language, develop from social interactions. Applying Vygotsky's sociocultural theory of mind, several researchers (e.g., Aljaafreh and Lantolf, 1994; Swain and Lapkin, 1998; Storch, 2002; Lantolf and Thorne, 2006; Swain and Suzuki, 2008) have studied the role of interaction in language acquisition. Through a gradual process of internalisation, children become able to use a language, first used by others during interaction, as a mediating tool in interaction.

In children's process of language development, the range of social interactions between an adult and a child takes place in a metaphorical space of development of higher order cognitive functions: the Zone of Proximal Development (ZPD). The ZPD is a concept developed by Vygotsky defined as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978: 86). Within the ZPD, a more expert person scaffolds communication for children in the process of development (Wood et al., 1976: 96; Lightbown and Spada, 2013: 25). Scaffolding occurs in and through interactions and "refers to a gradual and step by step assistance" offered by a more competent person as needed (Nassaji, 2016: 4). The scaffolding process can be verbal and non-verbal: both these semiotic resources are used to provide children with helpful interactions that enable them to access meaning and participate in communicative exchanges. Through the participation in interaction scaffolded

through verbal and non-verbal resources, children internalise new strategies and knowledge about communication (Vygotsky, 1986).

Krashen (1982) gave great emphasis to the role of interaction in second language acquisition. He proposes that language acquisition takes place during communicative interaction when learners are exposed to rich comprehensible input in the target language. When children are acquiring a language, especially in the early stages, they need to be surrounded by a lot of input that will allow them to become familiar with the new language (Cameron, 2001; Paradis, 2007; Lightbown and Spada, 2013). This input should be comprehensible and meaningful, helping children understand the information they are exposed to, and also including new elements that allow them to move forward in their process of acquisition and learning (Swain and Suzuki, 2008). Krashen (1985) believed that comprehensible input is a necessary condition for second language acquisition and states that input becomes comprehensible thanks to simplification and with the help of contextual and extralinguistic clues. The paralinguistic realm (gestures, facial expressions, use of voice features) used in interaction plays a crucial role in children's comprehension of the meaning (Cao and Chen, 2017: 1071; Masoni, 2019: 115).

Long (1981; 2007) and other interactionists, also underline the importance of comprehensible input as a crucial element in language acquisition. Input is made comprehensible through modified interaction, or negotiation of meaning between participants. Interactional adjustments make input comprehensible, and comprehensible input promotes acquisition; thus, interactional adjustments promote acquisition. Long claims that when meaning is negotiated, input comprehensibility is increased. Negotiation of meaning leads to modified interaction, which consists of various modifications that interlocutors make in order to render their input comprehensible. Negotiation of meaning involves linguistic simplification: shorter utterances with less complex syntax, concrete vocabulary rather than slang or idioms, and synonyms to clarify concepts. Negotiation might also include feedback such as recasts, comprehension checks, clarification requests, self-repetition or paraphrase, restatement and expansion of statements and topic switches (Wesche, 1994; Brown, 2000). Negotiation includes also paralinguistic features such as modifications in speech volume or speed and non-linguistic features such as an increased use of gesture and body movement.

In the case of children and language learning, comprehensible input is provided as 'motherese', 'caretaker language', 'caregiver language' or 'teacherese' (Aitchison, 2008: 152). These are all forms of modified input which present a slower rate, an increased use of high frequency vocabulary,

simplified syntax (e.g., short sentences, repetition, fewer clauses), discourse adjustments (e.g., clearer connections between pronouns and their antecedents), use of gesture and visual reinforcement, and alterations in prosody (e.g., increased acoustic stress on content words) (Van Patten et al., 2010: 70; Van Patten et al., 2020).

All these scholars emphasised that very young children learn to make meaning in interactive contexts, where communication unfolds among social actors through multiple semiotic resources. Verbal language is one system for expressing meaning, but it is only one among many modes of communication that humans use to interact. When children are exposed to a new language through meaningful communicative interactions, they draw on both verbal and non-verbal cues to construct meaning and engage with the world around them (Curtain and Dahlberg, 2004: 11). This multimodal processing not only supports comprehension but also positively influences cognitive development, shaping the brain into a linguistically flexible and powerful plurilingual system (Paradis, 2007; Wang and Wei, 2022).

Interaction is a dynamic, co-constructed process in which social actors exchange and negotiate meaning through a range of linguistic, paralinguistic (e.g., intonation, pitch, speed, volume), and non-linguistic (e.g., gestures, facial expressions, body movement) resources.

From birth, humans are involved in a range of social interactions in which they learn how to use different semiotic resources, verbal and non-verbal, to make meaning; this enables them to interact in diverse socio-cultural situations, adopt a variety of conversational roles and negotiate different participant frameworks of interaction in relation to specific contexts (Halliday, 1978: 18; Goodwin and Kyratzis, 2007; Kyratzis, 2017; Kyratzis and Johnson, 2017).

This innate ability to coordinate and interpret multiple semiotic modes in interaction becomes especially important when children encounter a new language (Contessi et al., 2002; Shams and Seitz, 2008). The multimodal pathways they activate and strengthen during interactive encounters contribute to more effective meaning-making. 'Meaning-making' is a complex, dynamic, collaborative and contextualised process which is instantiated within specific contexts of interaction (Goodwin, 2000; Selander, 2008; Taylor, 2014; Magnusson and Godhe, 2019).

Long before children begin using spoken language to communicate, they are active and accomplished social actors able to interact with others. When they encounter a new language in an immersive and interactive context, they activate a variety of the communicative potentials and the abilities they have acquired in the process of first language(s) acquisition

to communicate with others (Li and Jeong, 2020). As in the process of acquiring their first language(s), children are able to integrate their knowledge about the target language and information taken from the context, such as speaker's gestures and facial expressions, in order to make meaning. Even if they are not able to speak yet, and their verbal language competences are not fully developed, children use different resources to understand, make meaning and communicate while they interact with adults and peers (Taeschner, 2005; Tellier, 2008).

The emergence of communicative skills in children is multimodal: linguistic and paralinguistic resources are not differentiated in early stages of child's communicative development. Research studies have shown that language develops out of a protolinguistic system in which children draw on sounds, facial expressions and gestures to understand and enact signs. At the age of 1, the most used resources for making meaning are gesture and facial expressions; with gesture, body movements and facial expressions (smiling, pointing, waving and clapping hands, stretching and clenching fingers) children express meanings and learn to mean (Cienki and Müller, 2008; McNeill, 2016). Later on, in the language development process, these resources become specialised in distinctive ways (Martin and Zappavigna, 2019: 4). Very young children exchange meaning mainly through action and gesture (Iverson and Goldin-Meadow, 2005); then they develop speech, accompanied and supported by non-verbal actions.

According to Piaget (1952), cognitive development is facilitated by the development of sensory-motor schemes which are enriched by children's experiences in the world. In his view, language is used to represent knowledge that children have acquired through physical interaction with their environment. Following Piaget's theory, many recent research studies have focused on infants' mastery of a new motor skill and its relation to concurrent language development. Others have reported predictive relations between earlier emerging motor skills and subsequent language development (Oudgenoeg-Paz et al., 2012; Walle and Campos, 2014; Wang et al., 2014). Results from these studies demonstrate that the acquisition of a new motor skill (e.g., sitting, or walking) initiate developmental cascades that can influence subsequent language learning in children. Communication, language and movement are closely related in young and very young children's cognitive development: the development of communicative skills is linked to the development of basic motor skills, children need to move and use their bodies to interact with and experience the world around them to allow, facilitate and reinforce language acquisition (Shams and Seitz, 2008; Blomert and Froyen, 2010; Ferrell and Sherman, 2011). For this reason, the younger the children, the

more they need to experience communication through various semiotic resources.

Communicative development is aided by the child's prelinguistic grasp of concepts and meaning (Bloom, 1976: 113; Gervain and Mehler, 2010: 208; MacNamara, 1972; Bergelson and Aslin, 2017). Very young children (12-36 months) are able to decode communicative contexts around them and make sense of stretches of language using all available semiotic resources: in communicative contexts, children make meaning by relying on words they recognise and understand, while they fill the gaps with information taken from the context and the speaker's voice features, gestures, movement and facial expressions (O'Grady, 2005: 16). They can understand the essential meaning of what is being said and respond to it even if they do not understand each word. When language competence is not sufficient to make meaning through speech, children instinctively use other ways to reach their communicative aims. Although speech is a meaningful social behaviour, it is crucial to bear in mind that articulate phonetic speech is only one of the resources by which meaning is transmitted in social interaction between children and adults (Bruner, 1974: 257; Csibra and Gergely, 2006). Halliday states that in the process of language acquisition "what the child hears [...] is functionally related to observable features of the situation around him" (1978: 9). This means that a child does not learn to communicate only by listening, but also by observing and experiencing communication in a more complex way, through their whole body immersed in contexts of interaction. From birth through early childhood, children use various semiotic resources to explore and make sense of the world: hearing, seeing, tasting, smelling and touching allow children to process information and strengthen the neural pathways that contribute to communicative development (Sheridan, 2014). In contexts of interaction, sensory channels allow the child to take advantage of a wide range of semiotic resources in order to interpret communicative inputs and make meaning (Contessi et al., 2002).

The Multimodal Approach to Communication and Interaction

Communication is multimodal and during face-to-face interaction "participants encounter a steady stream of meaningful facial expressions, gestures, body postures, head movements, words, grammatical constructions, and prosodic contours" (Stivers and Sidnell, 2005: 2). Kress and van Leeuwen define multimodality as "[t]he use of several semiotic modes in the design of a semiotic product or event" (2001: 20). The central assumption

of multimodality is that we make meaning using a range of different semiotic resources. Jewitt, and O'Halloran (2016: 157) use "meaning-making" as a more general term than communication. They state that while the term "communication" implies the presence of a social actor who expresses meaning and another social actor who interprets meaning, the term "meaning-making" can be applied also to a research context in which the attention is focused on one social actor expressing and/or interpreting meaning. Such understanding of how people use multiple means to make meaning requires an approach that allows researchers to analyse communication as something more than language (Jewitt, 2017a: 1), and that considers the range of modes and semiotic resources people use.

The concepts of 'mode' and 'semiotic resource' are core concepts for multimodal studies, and they are investigated in different ways by different approaches in multimodal research (Jewitt, 2017b: 22). Multimodality attends to meaning as made through organised sets of socially and culturally shaped semiotic resources. From a multimodal perspective, organised sets of semiotic resources (image, gesture, gaze, body posture, sound, writing, music, speech image, action, and so on) are referred to as "modes" (Bezemer and Kress, 2016: 7). Modes are semiotic systems with rules and regularities attached to them (Kress and Van Leeuwen, 2001). Each mode makes semiotic resources, which are the actions, materials and artefacts for meaning-making in concrete social context, available to people. All semiotic resources have a meaning potential developed and accumulated over time through their use in a particular community and culture (Van Leeuwen, 2005: 285; Jewitt, et al. 2016: 159; Jewitt, 2017b: 468). Meaning is made through all modes separately, and at the same time, meaning is the effect of all modes acting jointly (Kress et al., 2014: 1) and it emerges from a process of interaction, contrast and conjunction of modes (Kress et al., 2014: 32). Social actors communicate meaning by selecting and using available semiotic resources at each specific moment in specific socio-cultural contexts and communicative events.

Multimodal approaches provide methods for mapping modes used in communication to better understand the communicative work each carries out and how they are intertwined. Approaches to multimodality are concerned with understanding how modes operate together, and how social actors communicate through the multimodal whole that is the *text* in context. According to Kress, this "text" can be a semiotic entity in two dimensions (e.g., a flyer with images and writing, a painting, a web page), three dimensions (e.g., a 3D model, a building) or four dimensions including